

DOCTOR SCUDDER'S WORK ON THE LEPIDOPTERA.

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Doctor Scudder's monumental work on "The Butterflies of the Eastern United States and Canada" was the culmination of more than thirty years of research in the life-histories and affinities of the higher Lepidoptera. After its publication, in 1889, his attention was largely given to the study of fossil insects and of Orthoptera, though he nevertheless found time for the preparation of several books designed to cultivate popular interest in the butterflies. Indeed he had in mind the publication of a book of wide scope,—a manual of the butterflies of North America. Great would have been the gain to the science of entomology had he lived to carry out his plan.

Few writers upon the Lepidoptera have approached him in philosophic breadth of view, in felicity of expression, in taxonomic precision. Perhaps no other has possessed these qualities in such wonderful combination. The spirit of Louis Agassiz, whose pupil and assistant he had been, is in his systematic work—the spirit which lays deep and sure foundations for the generalizations that are to come. "Facts are stupid things," he quotes his great teacher as saying, "until they are brought under some general law"; but he himself shows, all unconsciously, that the scientist's prevision of the light that will illuminate his facts invokes a lustre from the facts themselves. Comparisons of structural details in closely-allied insects are apt to make dull reading; but those from his pen have something which redeems and individualizes. We see, beyond the printed page, the ever-fresh zeal of the investigator.

And into the generalizations enters a new spirit—that of Charles Darwin. Doctor Scudder's essays upon migration, geographical distribution, protective coloration, dimorphism, and other evolutionary aspects of butterfly life, pointed the way to broad fields for research among our native species. These essays, most of them placed as "excursi" between the accounts of different families and genera in his great monograph, are perhaps the most

widely read of all his writings. Some of them were reprinted, a few years ago, in the little volume entitled "Frail Children of the Air." One, which did not find a place in the smaller collection, but which is regarded as a classic by students of zoögeography, is called "The Spread of a Butterfly in a New Region." It gives a detailed history of the invasion of North America by *Pieris rapae*.

"The Life of a Butterfly," a little monograph of *Anosia plexippus*, was published in 1893. The influence of this book is seen in the almost unanimous adoption of *plexippus* as the "typical butterfly" by teachers of elementary zoölogy in American schools.

Though mainly interested in the careful working out of life-histories, and their application to the solution of ontogenetic and phylogenetic problems, Doctor Scudder was the author of the first descriptions of some thirty species of American butterflies. His studies in classification were far-reaching. It is perhaps because these studies led him, in some instances, a long way from the beaten track of earlier monographers, that his popular manuals have not been so generally used as their author hoped they might be. But among men of learning his conclusions gained wide acceptance and support; and as time goes on, and students of heredity and evolution learn to make use of the wealth of material which the butterflies afford for their investigations, new cause will appear for grateful remembrance of his thorough and critical survey of the ground.

In all his published works, but more especially in those dealing with the Lepidoptera, Doctor Scudder showed the qualities of the real naturalist. Like Darwin, going again and again to watch the Bryony buffeted by the gale, he was ever revisiting the haunts of particular butterflies, and amending or confirming, by patient observation, his accumulated data. So the breath of outdoors is in his writings, and the eagerness of the explorer was in his spoken words; and the sight of the autumnal flocks of the Monarch, or the feeble flight of *Oeneis* about leeward ledges, must always recall to us their greatly gifted interpreter.